

Liquid wastes also may occur due to accidental releases. Potential accidental sources of liquid

pollution at the proposed facilities are spills from wellfields and pipelines, central plant and

satellite facility operations, or deep well pump houses and wellheads. The only instance in

which the wellfield features could contribute to pollution would be in the event of a release of

injection or recovery solutions due to pipe or well failure. However, the applicant indicates that

the piping will be leak checked first, the flows will be at a relatively low pressure and could be

stopped quickly, wellfield header houses will be equipped with wet alarms for early detection of

leaks, and piping from the wellfields will generally be buried, minimizing the possibility of an

accident (Powertech, 2011a).

The applicant states that the CPP and satellite facilities will have the potential for spills or

accidents resulting in the release of potential pollutants (Powertech, 2011a). Spills could result

from a release of process chemicals from bulk storage tanks, piping failure, or a process

storage tank failure. Outside chemical storage tanks will be contained within a curbed area that

will accommodate 1.5 times the capacity of the largest tank. The design of the plant buildings

will be such that any release of liquid waste will be contained within the structures. (Powertech,

2011a)

The CPP and the Satellite Facility buildings will be designed with concrete containment curbs

around the building perimeters (Powertech, 2011a). The largest liquid-containing vessel in the

CPP is the yellowcake thickener with a capacity of 141,940 L (37,500 gal). The applicant plans

two of these vessels, having a combined capacity of 283,880 L (75,000 gal). A 15-cm (6-in)

high containment curb around the entire perimeter of the CPP floor will contain 304,350 L

(80,410 gal). This containment will be more than enough to contain the entire contents of both

thickeners in the extremely unlikely event that both thickeners should fail simultaneously and

spill their entire contents onto the floor of the CPP before any of the contents flowed into the

sump. The sumps will provide additional temporary containment capacity such that the total

containment capacity of curbs and sumps is above 200 percent of the largest liquid-containing

tank or vessel in the CPP. Yellowcake thickeners will be separated by sufficient distance that

collapse of the support footing for one thickener could not cause that thickener to fall into the

second thickener. Standard operating procedures and employee training will be in place for

emergency situations including spills in the CPP and Satellite Facility (Powertech, 2011a).

For the Satellite Facility, the largest liquid-containing vessel will be the utility water tank, with a

volume of 60,560 L (16,000 gallons) (Powertech, 2011a). The Satellite Facility will include a

15-cm (6-in) high, containment curb around the perimeter wall of the building slab. The containment curb capacity will be at least 217,430 L (57,450 gal), or more than 350 percent of

the volume of the utility water tank. Sumps will provide additional incremental containment

capacity. Sump pumps will direct the spill to the radium, settling pond for treatment and

disposal. Depending on the nature of the spilled fluid, the sump pumps may be used to pump

the spilled fluid through the ion exchange system for removal of uranium and other dissolved

constituents prior to disposal. (Powertech, 2011a)

The design of the deep well pump houses and wellheads will be such that any release of liquids

will be contained within the building or in a bermed containment area surrounding the facilities

(Powertech, 2011a). Liquid inside the pump house buildings will be contained and managed as

appropriate. The automated control system on the Class V deep disposal wells will include

control switches to alert the operator if certain operating conditions are encountered. A high

injection pressure switch (set below the permitted maximum) and a low annulus differential

pressure switch (set above the permitted minimum) will shut off injection pump power and

will alert the operator so that the well can be fully isolated and secured. The alarm will sound in

the central control room of the CPP and/or Satellite Facility. In the event that any of the license

condition related set points are exceeded, injection operations will cease immediately until the

problem is identified and corrected. An operator will manually restart the system when operating parameter compliance is verified. Lines leading to the deep well will be instrumented

for leak detection and automatic deactivation (Powertech, 2011a).